JOINT INFORMATION ENGINEERING ORGANIZATION

Parkridge III, 10701 Parkridge Boulevard, Reston, VA 20191

SYMBOLOGY STANDARDS MANAGEMENT COMMITTEE DIRECTIVE

| SSMC NO: 2-01 | | | Date: May 24, 2001 |
|---|--|---------------------|---|
| CP No: MIL00-04 | | Title: Add S | lymbol, Sensor Zone |
| Originator, Name an | d Address: | | |
| Army/PM FATDS | | | |
| | | | |
| SSMC Action: | | | Decision: |
| ☐ Approved ☐ Approved with Ch ☐ Withdrawn ☐ Deferred ☐ Declared Substant ☐ By: ☐ Disapproved ☐ Testing Required ☐ Prior to Deci ☐ Subsequent to ☐ Allied Coordination | ive sion o Decision on Required | | Approved as modified (MIL 00-04A), in accordance with the Fire Support Hierarchy Analysis change Option C, Modification 1 data. |
| Approve Disapprov | | | |
| | Ar Na Ma Ma Ma Ma Ma Ma Ma | C MA MC EO | |
| | □ NS | | Chairperson |
| | | | Annelie se Martin (Signature) |

| SYMBOLOGY CONFIGURATION MANAGEMENT CHANGE PROPOSAL FORM | | | | | | | | | |
|--|---------|------------------|----------------|--|--|--|--|--|--|
| CHANGE PROPOSAL NUMBER MIL00-04A | | | | | | | | | |
| ORIGINATOR | SPONSOR | DATE RECEIVED | DATE OF ACTION | | | | | | |
| PM FATDS | ARMY | 1 September 2000 | May 24, 2001 | | | | | | |
| CHANGE PROPOSAL TITLE | | | | | | | | | |
| ADD NEW SYMBOL, SENSOR ZONE | | | | | | | | | |
| SUGGESTED CHANGE | | | | | | | | | |

The Fire Support community has a requirement to add a new symbol to MIL-STD-2525B.

- 1. The purpose of the Sensor Zone symbol is to graphically display radar Sensor Zones to commanders in the Common Operational Picture (COP)/Common Tactical Picture (CTP).
- 2. Recommend adding to hierarchy item 2.X.4, Fire Support, under the "Areas" hierarchy, 2.X.4.3, figure B-17, and table B-IV.

OVERVIEW

Currently, the standard does not contain a symbol depicting radar Sensor Zones. The purpose of the Sensor Zone symbol is to graphically display to commanders and operators the geometry used by fire support radar's to designate specific areas covered by that radar. Incorporation into MIL STD 2525B, which will be used in JMTK and GSD, will allow the symbols to be transmitted/received by all battlefield system. Sensor Zones are a required symbol for use in the COP/CTP to be shared across the battlefield. The development of the COP/CTP is required of all ABCS component systems. Fire Support systems are the producer of radar Sensor Zones for the COP/CTP. Fire Support systems will retain this capability for fielding throughout the Army and USMC.

OPERATIONAL DESCRIPTION

In general, the radar Sensor Zone symbols is used to designate specific areas covered by a radar. A minimum of three (3) point locations are required to graphically display a Sensor Zone. The minimum information required to interoperate with another system is defined below.

IMPLEMENTATION

Description: Fire Support, Area, Sensor Zone

Parameters:

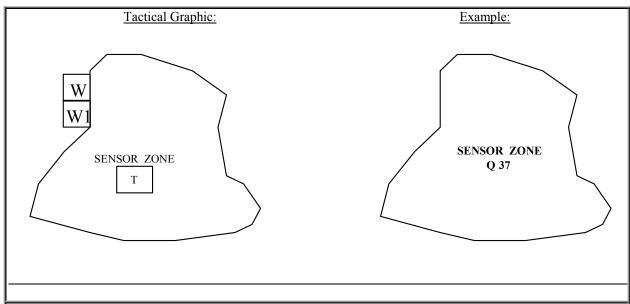
- 1. Anchor Points. This graphic requires a minimum of three anchor points to define the boundary of the area. Add as many points as necessary to accurately reflect the area's size and shape.
- 2.Size/Shape. Determined by the anchor points. The information fields should be moveable and scaleable within the area.

3. Orientation. Not applicable.

Fixed/Dynamic: Dynamic

Hierarchy: 2.X.4.3.14

Symbol ID: G*F*ASZ---***X



JIEO ANALYSIS

The proposed CP fulfills a need expressed by the Army for a standard Sensor Zone Symbol.

The following changes must be made to the standard to incorporate the proposed changes:

- 1.Revise table B-III, C2 Symbology: Military Operations symbol ID codes, to include the necessary information for the Sensor Zone symbol.
- 2.Revise figure B-17, Fire Support, to include the Sensor Zone symbol.
- 3.Revise table B-IV, C2 Symbology: Military Operations set, to include a generic and example symbol for Sensor Zone.

The Symbol ID as recommended above may be interpreted as a symbol hierarchy subcategory of Series or Group of Targets. However, looking at the hierarchy number of Series or Group of Targets and the recommended hierarchy number for Sensor Zone the symbols are on the same hierarchical level. The problem in this case exists specifically within the Function ID. This is because the first two characters of each symbol's function ID are identical. The table below illustrates this point.

| Sensor Zone | 2. | X.4.3.14 | | Series or Group of Targets | 2 | .X.4.3.5 | |
|----------------|------|-------------|-------|----------------------------------|------|-------------|-------|
| | | Function ID | | | | Function ID | |
| Symbol ID | G*F* | <u>AS</u> Z | ****X | Symbol ID | G*F* | <u>AS</u> | ****X |

It is possible for two symbols to have identical function IDs within their respective symbol IDs but only if each has a different coding scheme and/or category code. Thus creating a unique symbol ID. Otherwise, symbols from the same symbol set and category must have unique function IDs to differentiate the two symbols. Each character of the function ID represents a subcategory for each hierarchy category. In the example above the "A" of the function ID represents the Fire Support subcategory "Areas." The "S" has already been assigned to the previously approved Fire Support / Areas / Series or Group of Targets symbol. Therefore, the second character in a Fire Support / Areas / Sensor Zone function ID cannot be "S."

A solution is not recommended here due to the fact that this change proposal is one of 43 change proposals submitted by the Army, all of which deal with the Fire Support category of C2 Symbology: Military Operations symbol set. This situation required a broader scope of analysis to deconflict the proposed symbols with the existing symbols. For possible solutions to this conflict, see the Fire Support Hierarchy Analysis located on the Change Proposal/Coordination page of the symbology web site.

CONFORMANCE TO SYMBOL GUIDELINES:

The proposed Sensor Zone symbol follows the rules concerning composition, construction, display, and transmission previously set forth in the standard.

ADEQUACY AND IMPACT ON OTHER PROGRAMS:

None known.

C/S/A COMMENTS

DECISION NOTICE

Approved at SSMC 2-01 with the following changes:

Restructure the entire 2.X.4 (Fire Support) hierarchy IAW the Fire Support Hierarchy Analysis, Change Option C with modification 1 (does not include graphics which are still pending review and approval [MIL00-11 through MIL00-44]). See Attachment A.

Attachment A

Tasks:

1. Modify Figure B-17 to reflect new hierarchy structure (Figure B-17 becomes Figures B-17.1 and B-17.2) and addition of new Fire Support graphics.

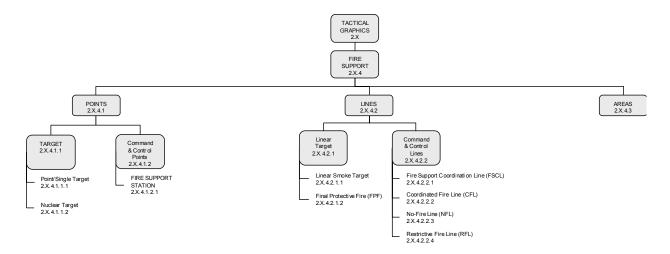


Figure B-17.1. Fire Support.

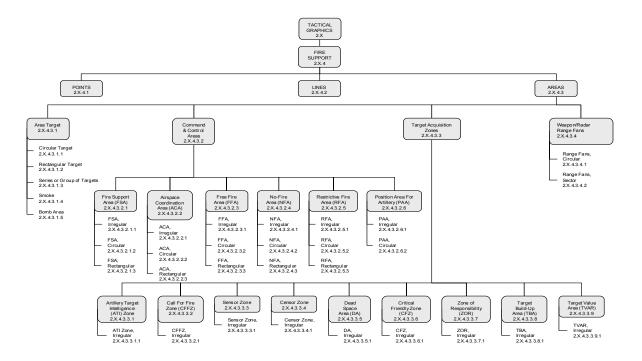


Figure B-17.2. Fire support.

2. Modify Table B-III to reflect restructured hierarchy numbers, provide new symbol IDs for restructured graphics and addition of new graphics' hierarchy numbers and symbol IDs.

| HIERARCHY | CODE SCHEME | AFFILIATION | CATEGORY | STATUS | | FUNCTION ID | | SIZE/MOBILITY | COUNTRY CODE | ORDER OF | DESCRIPTION |
|---------------|-------------|-------------|----------|--------|----------|-------------|----------------|---------------|--------------|----------|---|
| 2.X.4 | G | * | F | * | | | | ** | ** | Х | FIRE SUPPORT |
| 2.X.4.1 | G | * | F | * | P- | | | ** | ** | Х | POINT |
| 2.X.4.1.1 | G | * | F | * | PT | | | ** | ** | Χ | TARGET |
| 2.X.4.1.1.1 | G | * | F | * | PT | S- | | ** | ** | Х | POINT/SINGLE TARGET |
| 2.X.4.1.1.2 | G | * | F | * | PT | N- | | ** | ** | Х | NUCLEAR TARGET |
| 2.X.4.1.2 | G | * | F | * | PC | | | ** | ** | Х | COMMAND AND CONTROL |
| 2.X.4.1.2.1 | G | * | F | * | PC | F- | | ** | ** | Х | FIRE SUPPORT STATION |
| 2.X.4.2 | G | * | F | * | L- | <u>-</u> | | ** | ** | Х | LINES |
| 2.X.4.2.1 | G | * | F | * | LT | | | ** | ** | Х | LINEAR TARGET |
| 2.X.4.2.1.1 | Ğ | * | F | * | LT | S- | | ** | ** | X | LINEAR SMOKE TARGET |
| 2.X.4.2.1.2 | G | * | F | * | LT | F- | | ** | ** | X | FINAL PROTECTIVE FIRE (FPF) |
| 2.X.4.2.2 | G | * | F | * | LC | <u> </u> | | ** | ** | X | COMMANDAND CONTROL |
| 2.X.4.2.2.1 | G | * | F | * | LC | F- | | ** | ** | X | FIRE SUPPORT COORDINATION LINE (FSCL) |
| 2.X.4.2.2.2 | G | * | F | * | LC | C- | | ** | ** | X | COORDINATED FIRE LINE (CFL) |
| 2.X.4.2.2.3 | G | * | F | * | LC | N- | | ** | ** | X | NO-FIRE LINE (NFL) |
| 2.X.4.2.2.4 | G | * | F | * | LC | R- | | ** | ** | X | RESTRICTIVE FIRE LINE (RFL) |
| | | * | F | * | | | | ** | ** | | |
| 2.X.4.3 | G | * | | * | A- | | | ** | ** | X | AREAS |
| 2.X.4.3.1 | G | * | F | * | AT | | | ** | ** | Х | AREA TARGET |
| 2.X.4.3.1.1 | G | | F | * | AT | C- | | ** | ** | Х | CIRCULAR TARGET |
| 2.X.4.3.1.2 | G | | F | | AT | R- | | ** | ** | Х | RECTANGULAR TARGET |
| 2.X.4.3.1.3 | G | * | F | * | AT | G- | | ** | ** | X | SERIES OR GROUP OF TARGETS |
| 2.X.4.3.1.4 | G | * | F | * | AT | S- | | ** | ** | Х | SMOKE |
| 2.X.4.3.1.5 | G | * | F | * | AT | B- | | | | Χ | BOMB AREA |
| 2.X.4.3.2 | G | * | F | * | AC | | | ** | ** | Χ | COMMAND AND CONTROL |
| 2.X.4.3.2.1 | G | * | F | * | AC | S- | | ** | ** | Х | FIRE SUPPORT AREA (FSA) |
| 2.X.4.3.2.2 | G | * | F | * | AC | A- | | ** | ** | Χ | AIRSPACE COORDINATION AREA (ACA) |
| 2.X.4.3.2.3 | G | * | F | * | AC | F- | | ** | ** | Χ | FREE FIRE AREA (FFA) |
| 2.X.4.3.2.4 | G | * | F | * | AC | N- | | ** | ** | Х | NO-FIRE AREA (NFA) |
| 2.X.4.3.2.5 | G | * | F | * | AC | R- | | ** | ** | Χ | RESTRICTIVE FIRE AREA (RFA) |
| 2.X.4.3.2.6 | G | * | F | * | AC | P- | | ** | ** | Χ | POSITION AREA FOR ARTILLERY (PAA) |
| 2.X.4.3.3 | G | * | F | * | ΑZ | | | ** | ** | Χ | TARGET ACQUISITION ZONES |
| 2.X.4.3.3.1 | G | * | F | * | AZ | l- | | ** | ** | Х | ARTILLERY TARGET INTELLIGENCE (ATI) ZONE |
| 2.X.4.3.3.1.1 | G | * | F | * | AZ | II | | ** | ** | X | ARTILLERY TARGET INTELLIGENCE (ATI) ZONE, IRREGULAR |
| 2.X.4.3.3.2 | G | * | F | * | AZ | X- | | ** | ** | Х | CALL FOR FIRE ZONE (CFFZ) |
| 2.X.4.3.3.2.1 | G | * | F | * | AZ | XI | | ** | ** | X | CALL FOR FIRE ZONE (CFFZ), IRREGULAR |
| 2.X.4.3.3.3 | G | * | F | * | AZ | S- | | ** | ** | X | SENSOR ZONE |
| 2.X.4.3.3.3.1 | G | * | F | * | AZ | SI | | ** | ** | X | SENSOR ZONE, IRREGULAR |
| 2.X.4.3.3.4 | G | * | F | * | AZ | C- | <mark>=</mark> | ** | ** | X | CENSOR ZONE CENSOR ZONE |
| | G | * | F | * | AZ AZ | CI CI | | ** | ** | | CENSOR ZONE, IRREGULAR |
| 2.X.4.3.3.4.1 | G | * | F | * | AZ AZ | D- | | ** | ** | X | |
| 2.X.4.3.3.5 | | <u> </u> | | * | | | | ** | ** | X | DEAD SPACE AREA (DA) |
| 2.X.4.3.3.5.1 | G | * | F | * | AZ | DI | | ** | ** | X | DEAD SPACE AREA (DA), IRREGULAR |
| 2.X.4.3.3.6 | G | <u> </u> | F | | AZ | F- | <u></u> | | | X | CRITICAL FRIENDLY ZONE (CFZ) |
| 2.X.4.3.3.6.1 | G | Ĺ | F | * | AZ | FI 7 | | ** | ** | X | CRITICAL FRIENDLY ZONE (CFZ), IRREGULAR |
| 2.X.4.3.3.7 | G | <u> </u> | F | * | AZ | Z- | | | | X | ZONE OF RESPONSIBILITY (ZOR) |
| 2.X.4.3.3.7.1 | G | Ľ | F | | AZ | ZI D | | ** | ** | X | ZONE OF RESPONSIBILITY (ZOR), IRREGULAR |
| 2.X.4.3.3.8 | G | * | F | * | ΑZ | B- | | ** | ** | Х | TARGET BUILD-UP AREA (TBA) |

Attachment A

| HIERARCHY | CODE SCHEME | AFFILIATION | CATEGORY | STATUS | | FUNCTION ID | SIZE/MOBILITY | COUNTRY CODE | ORDER OF | DESCRIPTION |
|---------------|-------------|-------------|----------|--------|-----------------|-----------------|---------------|--------------|----------|---------------------------------------|
| 2.X.4.3.3.8.1 | G | * | F | * | AZ | BI | ** | ** | X | TARGET BUILD-UP AREA (TBA), IRREGULAR |
| 2.X.4.3.3.9 | G | * | F | * | ΑZ | V- | ** | ** | Х | TARGET VALUE AREA (TVAR) |
| 2.X.4.3.3.9.1 | G | * | F | * | <mark>AZ</mark> | <mark>VI</mark> | ** | ** | X | TARGET VALUE AREA (TVAR), IRREGULAR |
| 2.X.4.3.4 | G | * | F | * | AX | | ** | ** | Χ | WEAPON/RADAR RANGE FAN |
| 2.X.4.3.4.1 | G | * | F | * | AX | C- | ** | ** | Х | WEAPON/RADAR RANGE FAN, CIRCULAR |
| 2.X.4.3.4.2 | G | * | F | * | AX | S- | ** | ** | Χ | WEAPON/RADAR RANGE FAN, SECTOR |

^{3.} Modify and amend Table B-IV as needed to agree with Figure B-17.1, B-17.2 and Table B-III as shown above.